# Comments Regarding Amateur Radio use of the 77 GHz Band

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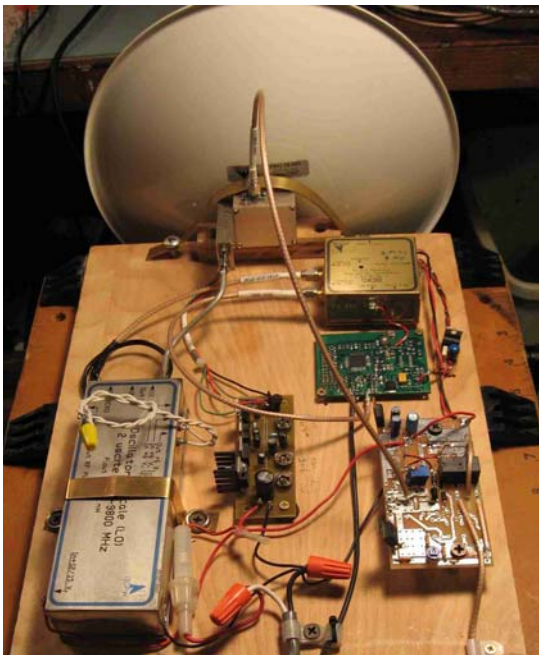
## Introduction

As an Amateur Radio Operator who utilizes 77 GHz, I wish to comment on the FCC proposal 15-16.

I am a licensed Broadcast Engineer, holding FCC General Radiotelephone Operator License PG-1-14907. I have been employed in the Broadcast field in an engineering capacity since 1978. I also hold Amateur Radio License N1JEZ. I have been an active Ham since 1991. I am a Past President of the North East Weak Signal Group and am still very active in this Club which promotes the use of VHF and up Amateur bands. My primary interest is in the VHF (50 MHz) and higher bands currently working on systems at 241 GHz. I have successfully built systems and made contacts on all amateur licensed bands except 134 GHz. This includes 77 GHz.

## Time Line

My first documented 77 GHz test was in July of 2007. The system used is pictured below.



It was a very crude system assembled from various components from other systems that were modified to operate at 78.192 GHz. The costs was about $1000 total. I was able to show the system to other Hams at various meetings to demonstrate techniques used. Over the next several years, I made multiple short distance contacts of just a few kilometers.

In 2014, there was a marked increase in 77 GHz activity with the introduction of the WA1MBA LNA's for 77 GHz. These were the result of years of research and development by Tom Williams, WA1MBA to produce a stable LNA

for this band. Several members of the North East Weak Signal Group acquired these LNA's and integrated them in to our systems.

During the late summer/fall of 2014, several long distance contacts were made using these systems. This included a new East Coast distance record on 78.192 GHz of 205 km. This was between myself and Tom Williams. The system is pictured below.

The costs of building this system added an additional $1000 to the original system.

I would sincerely hope that Amateurs are able to retain some portion of the 77 GHz spectrum to allow further experimentation on this band.